

# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/EP2005/004330

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 H01P1/15 H03H11/14 H03H11/24 H03K17/041 H03K17/16  
H03K17/687

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H03H H03K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 073 717 A (STURZEBECKER ET AL) 17 December 1991 (1991-12-17) column 2, line 35 - line 41; figure 1 column 1, line 53 - line 55	1,3,11
X	US 4 859 965 A (PAOLELLA ET AL) 22 August 1989 (1989-08-22) column 1, line 62 - line 65; figure 1 column 3, line 18 - line 21	1,3,11
A	columns 1,2	12-15
X	US 5 623 233 A (HIGGINS ET AL) 22 April 1997 (1997-04-22) column 5, line 9 - line 15; figure 1	1,3,11
A	column 2, lines 35-60	12-15
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

\* Special categories of cited documents:

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- \*G\* document member of the same patent family

Date of the actual completion of the international search

2 November 2005

Date of mailing of the international search report

10. 11. 2005

Name and mailing address of the ISA

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 073 718 A (PAOLELLA ET AL) 17 December 1991 (1991-12-17) column 2, line 33 - line 55	1,3,11
X	US 5 162 657 A (STURZEBECKER ET AL) 10 November 1992 (1992-11-10) column 2, line 55 - column 3, line 26; figure 1	1,3,11
A	US 2004/036462 A1 (EVERS CHRISTIAN ET AL) 26 February 2004 (2004-02-26) cited in the application the whole document	1-11
A	EP 0 869 611 A (HEWLETT-PACKARD COMPANY) 7 October 1998 (1998-10-07) the whole document	1
A	US 5 313 138 A (DESMUR ET AL) 17 May 1994 (1994-05-17) column 4, line 32 - line 61; figure 2	1
A	US 5 086 281 A (PAOLELLA ET AL) 4 February 1992 (1992-02-04) the whole document	1,3,11
A	US 3 662 289 A (JOSEPH F. DIENST) 9 May 1972 (1972-05-09) figure 4	1,3,11
A	US 5 347 235 A (HIGGINS ET AL) 13 September 1994 (1994-09-13) figure 1	1,3,11
A	PATENT ABSTRACTS OF JAPAN vol. 012, no. 277 (E-640), 30 July 1988 (1988-07-30) & JP 63 055978 A (YOKOGAWA ELECTRIC CORP), 10 March 1988 (1988-03-10) abstract	1
A	PATENT ABSTRACTS OF JAPAN vol. 016, no. 415 (E-1257), 2 September 1992 (1992-09-02) & JP 04 139877 A (NEC CORP), 13 May 1992 (1992-05-13) abstract	1

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>SASAKI H ET AL: "ANALYSIS OF GATE LAG IN GAAS METAL-SEMICONDUCTOR FIELD-EFFECT TRANSISTOR USING LIGHT ILLUMINATION" JAPANESE JOURNAL OF APPLIED PHYSICS, PUBLICATION OFFICE JAPANESE JOURNAL OF APPLIED PHYSICS. TOKYO, JP, vol. 34, no. 12A, PART 1, December 1995 (1995-12), pages 6346-6351, XP000628352 ISSN: 0021-4922 the whole document</p>	1-12

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## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

**see the Supplemental Sheet**

1. ☒ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

**Remark on Protest**

- ☐ The additional search fees were accompanied by the applicant's protest.  
☒ No protest accompanied the payment of additional search fees.

1. Claims 1-11

microwave circuit with GaAs field effect transistors on a semiconductor substrate for switching high-frequency signals, the transistors being illuminated by a light source, the intensity and/or color of which can be modified in operation.

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2. Claims 12-15

calibration device and method of calibrating the luminous intensity/color of a light source that can be modified in operation for purposes of calibrating a microwave circuit.

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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 5073717	A	17-12-1991	NONE	
US 4859965	A	22-08-1989	NONE	
US 5623233	A	22-04-1997	NONE	
US 5073718	A	17-12-1991	NONE	
US 5162657	A	10-11-1992	NONE	
US 2004036462	A1	26-02-2004	DE 10228810 A1	29-01-2004
EP 0869611	A	07-10-1998	DE 69801177 D1	30-08-2001
			DE 69801177 T2	21-03-2002
			JP 11008525 A	12-01-1999
			US 5808322 A	15-09-1998
US 5313138	A	17-05-1994	EP 0485266 A1	13-05-1992
			FR 2669145 A1	15-05-1992
			JP 6131983 A	13-05-1994
US 5086281	A	04-02-1992	CA 2060689 A1	05-09-1992
US 3662289	A	09-05-1972	NONE	
US 5347235	A	13-09-1994	NONE	
JP 63055978	A	10-03-1988	NONE	
JP 04139877	A	13-05-1992	JP 2629428 B2	09-07-1997